

SWBAT

use the idea of Net Force

Sep 4-7:31 AM

Welcome!!!

SECA CP Physics
Friday 5 February 2016



H. Leslie Grebe
Room C-244

Centering
(circle)

- Show me SchoolView if you want phone in class...
- Hmwk: Vocab cards, Eureka 1-7, Wed wksht, Thu wksht

Opening Activity - Quick Write!

What does acceleration mean? (How is it different from speed?)

↳ CHANGE IN VELOCITY / SPEED

Can something be moving without accelerating? ☹x?

YES - CONSTANT SPEED

Can something be accelerating without changing speed? ☹x?

YES - TURNING

Circle: First best friend? How to support those who are absent?

Sep 7-7:04 AM

What we should have solid:

Memorize our ~~5~~⁸ vocab cards, units, vector or not, definition, formula

Be able to answer distance vs displacement questions

Be able to make measurements of real-life motion. Know what is likely to make timing things difficult and how to get more reliable timing results

Be able to convert between miles and meters, between hours, minutes, and seconds

Be able to calculate speed = dist/time and velocity = disp/time

Know what all of the symbols in the UAM equations stand for and mean

Be able to turn a UAM word problem into a list of knowns and unknowns

Be able to pick the equation with those 4 things in it

Be able to put the knowns into that equation

(Be able to solve for the unknown)

→ PROJECTILES: V_x IS CONSTANT; V_y CHANGES; $a_y = -9.8 \text{ m/s}^2$ PG 42
 PG 43 TIME, Δt , CONNECTS x & y
 PG 49 VECTORS INTO x & y , ADD VECTORS
 SOH - CAH - TOA
 PG 59 DIFFERENCE BETWEEN MASS & WEIGHT

QW every day to review - gather responses to front board.

Dec 4-9:15 AM

Unit	Chapters	Date
Left-Side Items	Page	Right-Side Items
REFLECTION ON NOTES	2	Ed Ed Adam Savage
HOW FAR FROM BRIDGE	4	"FORT STUEBEN"
REFLECTION ON NOTES	6	Hmwk: BASIC UNITS
PR: DISTANCE & DISPLACEMENT	8	Hmwk: FP DISPLACEMENT
DIAGRAM & STEPS	10	TIMING & ERROR
SUMMARY OF TIMING	12	How to BUILD a TABLE
PR: CONVERTING SOLNS	14	Hmwk: FP CONVERSIONS
PR: VELOCITY & SPEED	16	Hmwk: FP SPEED & VELOCITY
SPEED WORD PROBLEMS	18	ALGEBRA FOR PHYSICS
LAB JOURNAL 10/7	20	LAB JOURNAL 10/8
LAB JOURNAL 10/12	24	Hmwk: FP GRAPH POSITION
26	USE FOR PROJECT	27
OBSERVATIONS OF CORE	28	FP: INTRO TO ACC.
REVIEW FOR TEST	30	BALL ON RAMP
VECTORS, DIRECTION	32	FP: BASIC ACC EXAMPLE
PRACTICE UAM	34	FP: INTRO TO UAM
FALLING OBJECTS PACKET	36	FP: INTRO TO FREEFALL
MY FREE FALL WORD PROBLEM	38	3-ACT FALLING GLOWSTICK
Toy popper experiment	40	Free fall class solutions
Launched vs. Dropped	42	FP: INTRO TO PROJECTILE MOTION
PROJECTILE SIMULATOR	44	FP: PROJ. MOTION PROBLEM
PROJ'L PRACTICE PROB.	46	PROJECTILES PRACTICE
OUR VECTOR PRACTICE	48	FP - INTRO TO VECTOR COMPONENTS
VECTOR PACKET	50	NOTES ON ADDING VECTORS
MEASURE LAUNCHER	52	NOTES ON FINDING v_i & θ
OBSERVATIONS OF OBJECTS	54	RULES OF PHYSICS NOTES
NEWTON'S 1ST LAW	56	CONFUSING QUANTITIES

Sep 5-9:09 AM

Questions from Thursday's Worksheet?

Brainstorm forces:

$$\begin{aligned} \text{WEIGHT} &= F_{\text{grav}} = W \\ \text{AIR RESISTANCE} &= F_{\text{air}} \\ \text{PUSH OR PULL} &= F_{\text{APPLIED}} \\ \text{FRICTION} &= F_{\text{FRIC}} \\ \text{TENSION} &= T \\ \text{SPRING} &= F_{\text{SPRING}} \end{aligned}$$

NOT
MASS

$$\begin{aligned} \text{SUPPORT FORCE} \\ = \text{NORMAL FORCE} &= N \end{aligned}$$

Activity on computer:

Feb 5-8:18 AM

Pg 61: Net Force

Net income? *SNOW BLOWER BUSINESS*

+	\$10	PAID
-	\$3	PAYING LITTLE BRO
-	\$1	
<hr/>		
	+\$6	

Block on a scale...

RULE #1 (= NEWTON'S 1ST LAW)
 OBJECTS TEND TO STAY AT REST OR KEEP MOVING UNLESS **NET FORCE = 0**
 $\text{NET FORCE} \neq 0$

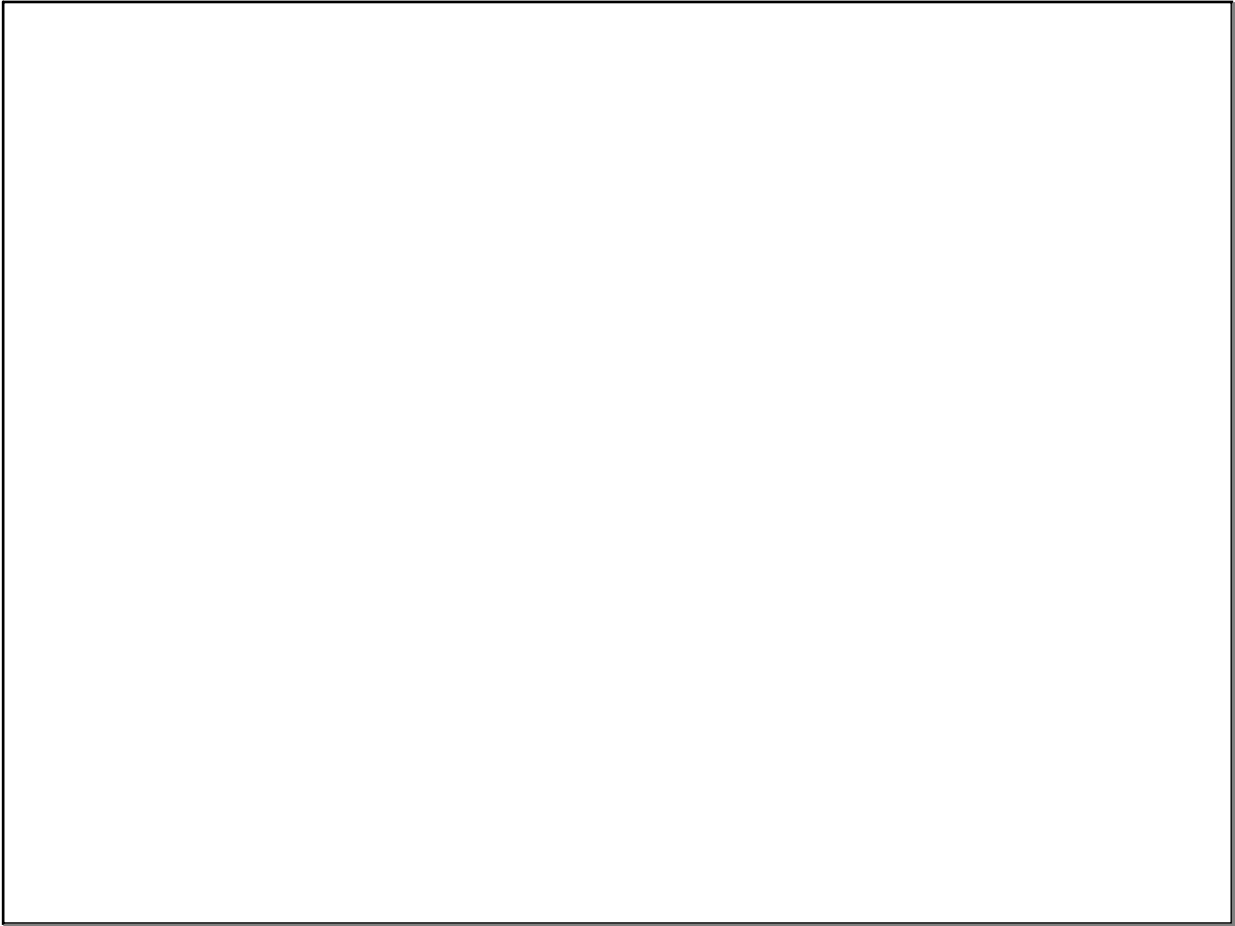
RULE #2 (= NEWTON'S 2ND LAW)
 $\text{FORCE} = \text{MASS} \cdot \text{ACCELERATION}$

GREEK LETTER SIGMA = SUM \Rightarrow "NET"

STATIC EQUILIBRIUM
 \hookrightarrow STILL \hookrightarrow BALANCED OR STEADY
 $\text{NET FORCE} = \sum F = 0$ & IT IS STILL

DYNAMIC EQUILIBRIUM
 \hookrightarrow MOVING
 CARDS CAN BE BALANCED IN A CAR WHEN MOVING AS LONG AS WE AREN'T
 - CHANGING DIRECTION
 - SLOWING DOWN
 - SPEEDING UP
 $\text{NET FORCE} = \sum F = 0$ & IT IS MOVING

Feb 4-9:00 AM



Feb 5-8:17 AM